Figure 1

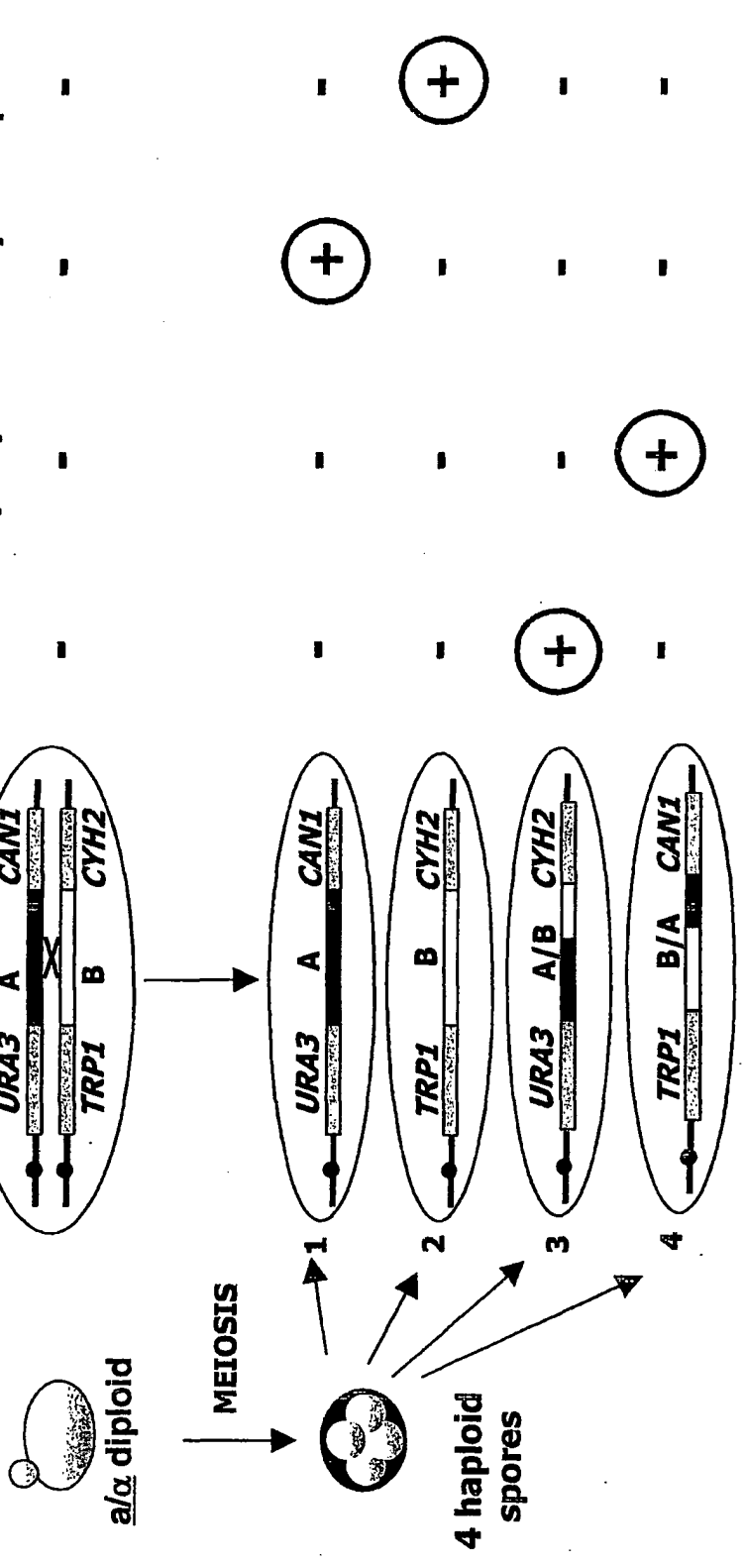

Selection medium
-Ura+Can
-Trp+Cyh
-Ura+Cyh
-Trp+Can
a/α diploid
MEIOSIS
4 haploid spores
URA3
A
CAN1
TRP1
B
CYH2
A/B
B/A
1
2
3
4

Figure 2

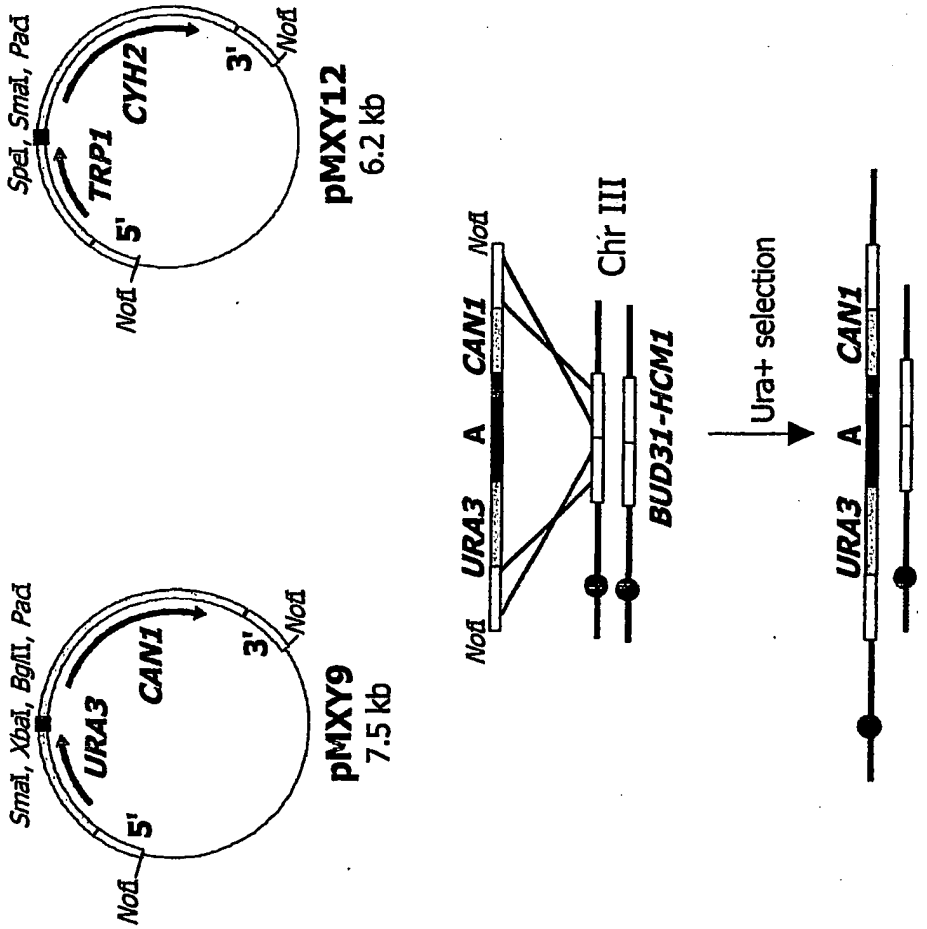
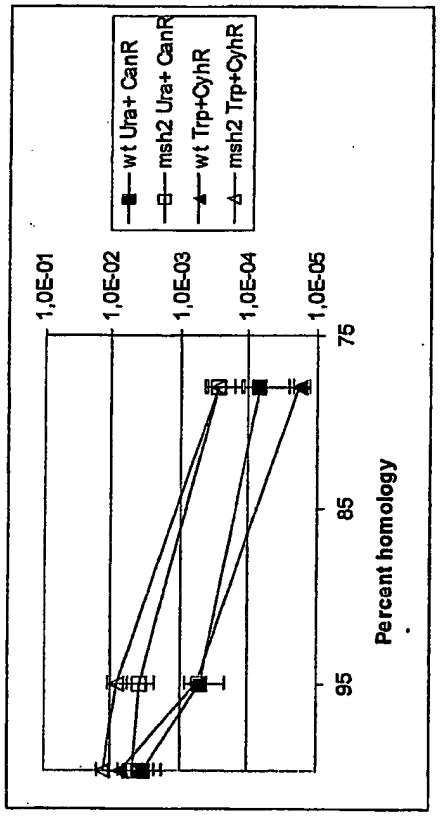

SpeI, SmaI, PacI
TRP1
CYH2
5'
3'
NotI
NotI
pMXY12
6.2 kb
SmaI, XbaI, BglII, PacI
URA3
CAN1
5'
3'
NotI
NotI
pMXY9
7.5 kb
NotI
URA3
A
CAN1
NotI
Chr III
BUD31-HCM1
Ura+ selection
URA3
A
CAN1

Figure 3

	Ura+CanR recombinants		Trp+CyhR recombinants	
% homology	wt	*msh2*	wt	*msh2*
100	$3.4 \pm 1.6 \times 10^{-3}$ (6)	$4.9 \pm 2.6 \times 10^{-3}$ (6)	$7.2 \pm 2.6 \times 10^{-3}$ (6)	$1.3 \pm 0.3 \times 10^{-2}$ (5)
95	$5.3 \pm 3.2 \times 10^{-4}$ (6)	$3.9 \pm 1.6 \times 10^{-3}$ (6)	$5.5 \pm 1.0 \times 10^{-4}$ (6)	$8.3 \pm 2.6 \times 10^{-3}$ (6)
78	$6.8 \pm 4.5 \times 10^{-5}$ (4)	$2.7 \pm 1.5 \times 10^{-4}$ (4)	$1.9 \pm 0.7 \times 10^{-5}$ (4)	$2.7 \pm 1.2 \times 10^{-4}$ (3)



% homology	Ura+ CanR *msh2*/wt	Trp+ CyhR *msh2*/wt
100	1.5 ± 0.6 (6)	2.0 ± 0.7 (5)
95	8.3 ± 3.1 (6)	15.8 ± 6.8 (6)
78	4.3 ± 1.1 (4)	12.6 ± 2.6 (3)

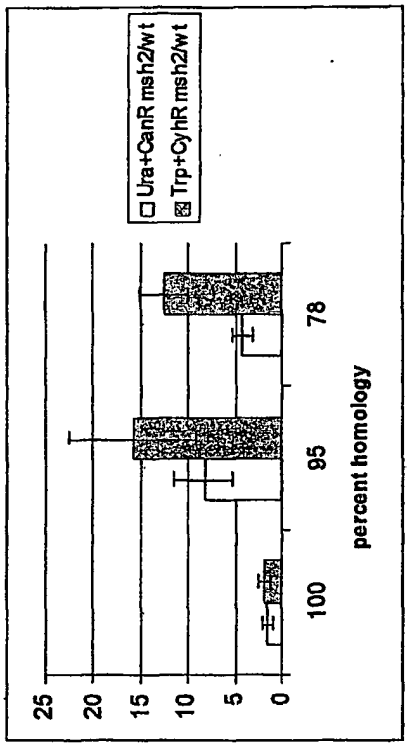


Figure 4

Figure 5

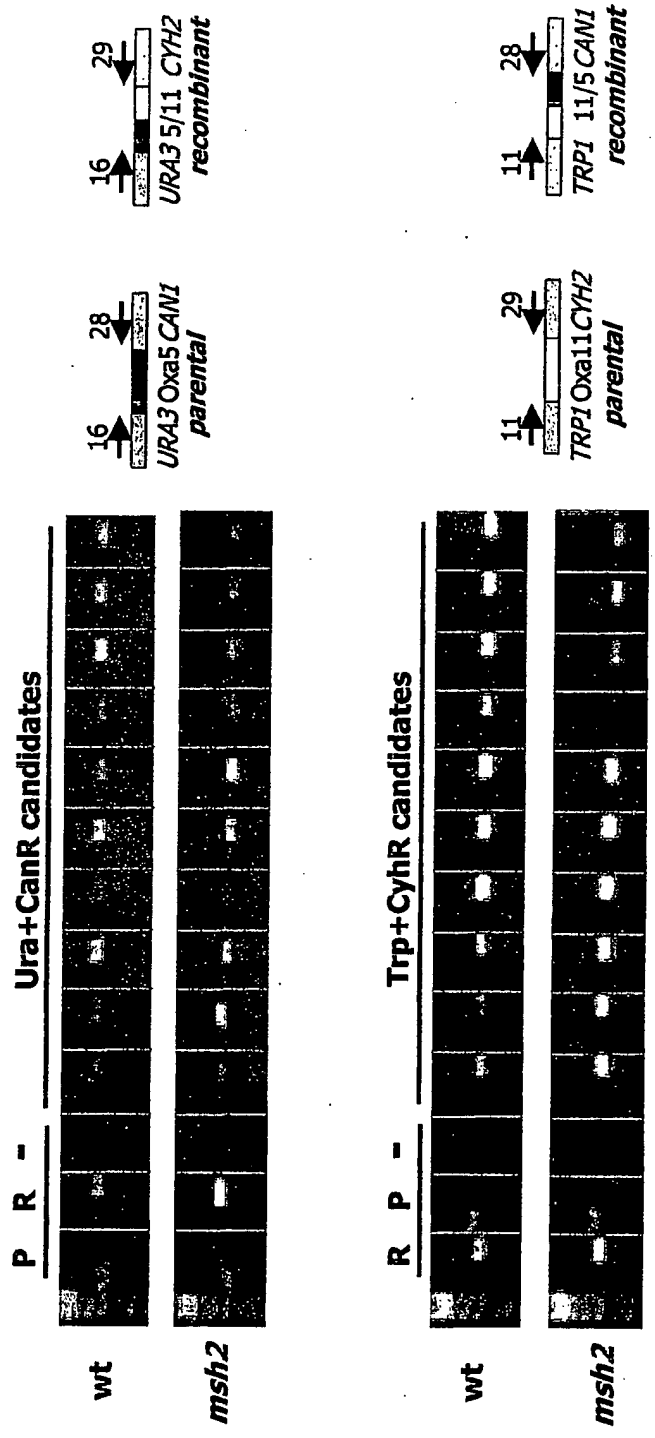

P R -
Ura+CanR candidates
wt
msh2
16
28
URA3 Oxa5 CAN1
parental
16
29
URA3 5/11 CYH2
recombinant
R P -
Trp+CyhR candidates
wt
msh2
11
29
TRP1 Oxa11 CYH2
parental
11
28
TRP1 11/5 CAN1
recombinant

Figure 6

	Ura+CyhR recombinants		Trp+CanR recombinants	
% homology	wt	*msh2*	wt	*msh2*
100	4.0×10^{-3}	2.8×10^{-2}	2.5×10^{-3}	1.4×10^{-2}
95	**MXY81** 3.6×10^{-4} **MXY82** 2.8×10^{-4} **MXY83** 3.0×10^{-4}	**MXY86** 9.9×10^{-3} **MXY87** 8.5×10^{-3} **MXY88** 7.0×10^{-3}	**MXY81** 4.3×10^{-4} **MXY82** 1.5×10^{-4} **MXY83** 3.3×10^{-4}	**MXY86** 1.4×10^{-2} **MXY87** 1.1×10^{-2} **MXY88** 1.2×10^{-2}